

STRENGTHENING THE REGULATION OF DEFEAT DEVICES IN THE EUROPEAN UNION

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INTRODUCTION

In the European Union (EU), *Directive 2007/46/EC on the Approval and Market Surveillance of Motor Vehicles and their Trailers, and of Systems, Components and Separate Technical Units Intended for Such Vehicles* (“EC Type-Approval Directive”) sets out the common legal framework for type-approval of light passenger and commercial vehicles.¹ This framework has recently come under close scrutiny in the wake of the Volkswagen (VW) emission scandal, and has been proposed for replacement in the European Commission’s *Proposal for a Regulation on the Approval and Market Surveillance of Motor Vehicles and their Trailers, and of Systems, Components and Separate Technical Units Intended for Such Vehicles* (“Proposed EU Type-Approval Regulation”).² Although the Proposed EU Type-Approval Regulation has the potential to improve the common legal framework, in general, with implications on the use of defeat devices, in particular, in its current form it will not remake the overall legal obligation regarding their use, which is located in other EU legislation.

Specifically, *Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information* (“Regulation (EC) 715/2007”) provides a definition of “defeat device” and prohibits their use except in specified circumstances.³ Regulation (EC) 715/2007 is implemented by *Commission Regulation (EC) No 692/2008 of 18 July 2008 implementing and amending Regulation (EC) No 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information* (“Commission Regulation (EC) 692/2008”).⁴

Recently, *Commission Regulation (EU) 2016/646 of 20 April 2016 amending Regulation (EC) No 715/2007 as regards emissions from light passenger and commercial vehicles (Euro 6)* (“Commission Regulation (EU) 2016/646”) included new provisions in Regulation (EC) 692/2008 that will require the disclosure of the existence of all potential defeat devices during the vehicle type-approval process.⁵

This note reviews the existing and proposed legal obligations in the relevant EU legislation regarding the disclosure, approved use of and approval process for defeat devices and the penalties applicable to manufacturers for violations of those obligations. Where appropriate, this note reviews and considers the relevant legislation and guidance addressing these issues in the United States (U.S.) before providing

recommendations that can be incorporated into the Proposed EU Type-Approval Regulation to strengthen the measures regulating defeat devices.

KEY ELEMENTS OF A ROBUST REGIME TO REGULATE DEFEAT DEVICES

In order to effectively ban the use of defeat devices in all but a limited number of authorized circumstances, the relevant legislation must set forth clear rules and guidelines in three key areas:

- (1) require the detailed disclosure of all potential defeat devices used by a vehicle;
- (2) establish guidance and a process for the evaluation of all potential defeat devices; and
- (3) establish a penalty regime for non-compliance with any aspect of the potential defeat-device disclosure obligations and defeat-device use prohibition.

This note reviews the state of the relevant EU legislation in these three key areas and also suggests how the relevant EU legislation can be improved.

I. Require the Disclosure of All Potential Defeat Devices

Detailed disclosure of all potential defeat devices begins by defining what constitutes a defeat device and thereafter requiring identification of any potential defeat devices.

Commission Regulation (EU) 2016/646 recently amended Article 2 of Commission Regulation (EC) 692/2008 to include among its definitions the following definitions for “base emission strategy” (BES) and “auxiliary emission strategy” (AES):

‘[B]ase emission strategy’ (hereinafter ‘BES’) means an emission strategy that is active throughout the speed and load operating range of the vehicle unless an auxiliary emission strategy is activated.⁶

‘[A]uxiliary emission strategy’ (hereinafter ‘AES’) means an emission strategy that becomes active and replaces or modifies a BES for a specific purpose and in response to a specific set of ambient or operating conditions and only remains operational as long as those conditions exist.⁷

These definitions of BES and AES appear to encompass all known defeat devices and it is difficult to envision an as-yet-unknown defeat device affecting a vehicle’s emissions that is not either embedded in the BES or an AES. While most defeat devices are thought to be employed as AESs, it is important for type-approval authorities to scrutinize both BESs and AESs for potential defeat devices as it is possible that defeat devices can be embedded in a BES. For example, one can envision the operation of certain exhaust gas recirculation (EGR) systems—one element of design used by VW to reduce NOx emissions—employed as part of the BES that would constitute a defeat device.

Unlike in the United States (U.S.), where a defeat device is defined in reference to, and as a subset of, an auxiliary emission control device (AECD)⁸—the U.S. equivalent to an AES—the EU definition of defeat device contains no such explicit connection between defeat devices and BESs or AESs. The U.S. regulation leaves no wiggle room for automakers to determine whether their AECD is a “defeat device” subject to disclosure—the regulation requires the disclosure of all AECDs, and therefore all defeat devices, without exception.

In the EU, a defeat device has been defined since 2007 in Regulation (EC) 715/2007 as:

[A]ny element of design which senses temperature, vehicle speed, engine speed (RPM), transmission gear, manifold vacuum or any other parameter for the purpose of activating, modulating, delaying or deactivating the operation of any part of the *emission control system*, that reduces the effectiveness of the emission control system under *conditions which may reasonably be expected to be encountered in normal vehicle operation and use*.⁹

This definition of defeat device is broad, and contains three main elements: (i) senses any parameter; (ii) for the purpose of activating, modulating, delaying or deactivating the operation of any part of the emission control system; (iii) and reduces the effectiveness of the emission control system under reasonably expected conditions in normal vehicle operation and use. Any element of design having these three characteristics, whether it is part of the BES or an AES, is a defeat device. Such an emission strategy, implemented via a defeat device, would appear to necessarily meet the definition of a BES or AES and therefore no further linkages among these definitions are required to impose a specific disclosure requirement on defeat devices as such disclosures are encompassed by the disclosure requirements imposed on manufacturers for BESs and AESs, discussed below.

European manufacturers accused of employing defeat devices in their diesel vehicles have recently attempted to cast doubt as to whether their AESs are in fact defeat devices by questioning the meaning of the terms “emission control system”. But too much credence should not be given to these *post hoc* defenses from manufacturers, as the plain meaning of the terms “emission control system” should, in the absence of a definition in the regulation to the contrary, include any system that controls emissions. With that said, it may be advisable to remove all doubt by crafting a broad definition of “emission control system” that relies on an existing definition in other related regulations which are applicable in other contexts within the EU. This would align with the practice in the U.S where “emission control system” has been defined through an Advisory Circular since 1974.¹⁰ For example, the United Nations Economic Commission for Europe (UNECE) regulations provides the following definition of emission control system: “any device, system, or element of design that controls or reduces the emissions of regulated pollutants from an engine.”¹¹ With a slight modification, the following definition should be adopted by the relevant EU legislation to define “emission control system” in the context of a defeat device as:

“any device, system, or element of design that controls or reduces the emissions of regulated pollutants, either directly or indirectly, from an engine.”

Additionally, establishing thresholds for temperature, altitude and other “conditions that which may reasonably be expected to be encountered in normal vehicle operation and use” is also be advisable so long as these boundary conditions are sufficiently broad to capture all defeat devices that could have an appreciable impact on vehicle emissions. If the specific thresholds or ranges for the triggering conditions that distinguish a normal AES from a defeat device are universally applicable, based on meteorological, topographical and other data and therefore represent the range of conditions encountered within the EU, incorporating the thresholds and ranges within the relevant EU legislation is a simple means of ensuring more consistent application of the defeat device prohibition across the EU.

One shortcoming that contributed to the VW emission scandal is the failure, until recently, of the relevant EU legislation to require explicit upfront disclosure of a defeat devices or potential defeat devices *by name*. This contrasts with the approach taken in the U.S. where for decades manufacturers have been required to disclose the presence of all AECs—a category of design elements that by definition includes all defeat devices—during the certificate of conformity (CoC) application process.¹² The CoC is the U.S. equivalent of the EC type-approval certificate in the EU.

Although historically no requirement for explicit upfront disclosure of defeat devices *by name* existed in the EU, disclosure of information on the impact of a defeat device could be interpreted as part of the application for EC type-approval, in particular where the defeat device impacts air pollution and fuel economy. For example, an application for type-approval is required to include certain information under the heading “measures taken against air pollution” that includes a catch-all category of “other systems (description and operation)” which should apply to any design element not specifically listed but affecting air pollution, including defeat devices.¹³ Manufacturers are also required to submit “details of any devices designed to influence fuel economy (if not covered by other items)” which might also require disclosure of certain defeat devices not already disclosed.¹⁴ These required submissions therefore may require some form of disclosure, although whether those provisions are restricted to hardware or include software and

other methods of control, could have been more clearly prescribed.¹⁵ Unfortunately, in the absence of a mandate to specifically list and describe all BESs and AESs employed by a vehicle, regulators frequently have been unable to detect the presence of many AESs, including AESs that are also defeat devices, based on the information currently disclosed. This failing of the EU regulatory system has, in part, been rectified by amendments to Commission Regulation (EC) 692/2008 requiring the disclosure of all BESs and AESs.

Commission Regulation (EU) 2016/646 amends Article 5 of Commission Regulation (EC) 692/2008—*Application for EC type-approval of a vehicle with regard to emissions and access to vehicle repair and maintenance information*—to require the following disclosures:

11. The manufacturer shall also provide an extended documentation package with the following information:
 - (a) information on the operation of all AES and BES, including a description of the parameters that are modified by any AES and the boundary conditions under which the AES operate, and indication of the AES or BES which are likely to be active under the conditions of the test procedures set out in this Regulation;
 - (b) a description of the fuel system control logic, timing strategies and switch points during all modes of operation.

While the amendment to Article 5 of Commission Regulation (EC) 692/2008 to include the disclosure of all BESs and AESs is a positive development, the provisions can be improved in three ways by borrowing concepts from other disclosure requirements under the EC Type-Approval Directive and its implementing regulations and from U.S. laws and regulations governing the disclosure of AECs.

First, the disclosure provisions could restate the required disclosures to put the onus of providing the information required to evaluate whether a BES or AES is a defeat device on the manufacturer. In this way, as new defeat devices are developed, regulators are not forced to continually update the specific disclosure requirements in order to keep pace with technological advancements. Further, manufacturers will not be able to exploit gaps or ambiguities in the terminology used in such lists to hide relevant information related to their BESs or AESs. For example, in the U.S., the Clean Air Act (CAA) requires that:

“[E]very manufacturer of new motor vehicles ... provide information [to] the [EPA that] may be reasonably required to determine whether a manufacturer ... has acted or is acting in compliance” with emissions standards applicable for new and in-use highway vehicles and engines.¹⁶

EPA has relied on this general provision to prosecute manufacturers in cases where a manufacturer has failed to provide information that, although not specifically listed in EPA’s non-exhaustive list of required disclosures related to AECs, was nonetheless reasonably required in order to evaluate the AEC as a potential defeat device.¹⁷ A similarly broad requirement specific to BESs and AESs could serve as an important safety net to the more specific list of detailed disclosures discussed below.

Second, where a BES or AES is under evaluation as a potential defeat device and the manufacturer intends to rely upon one of the three stated exceptions to the prohibition on the use of defeat devices set out in Article 5(2) of Regulation (EC) 715/2007, the manufacturer should be required to alert the type-approval authority to its reliance on a specific exception at the start of the application process or be barred from subsequently using that exception as an affirmative defense to avoid penalties or any other corrective measures in the future. Article 5(2) of Regulation (EC) 715/2007 sets forth three exceptions to the defeat-device prohibition, namely:

The prohibition shall not apply where:

- (a) the need for the device is justified in terms of protecting the engine against damage or accident and for safe operation of the vehicle;
- (b) the device does not function beyond the requirements of engine starting; or
- (c) the conditions are substantially included in the test procedures for verifying evaporative emissions and average tailpipe emissions.

The three listed exceptions represent the only three occasions in which the use of a defeat device is lawful in the EU. Introducing a burden shifting provision that requires manufacturers to identify and justify any exception to the defeat device prohibition upfront should be an essential part of a robust regime for regulating defeat devices and will be central to facilitating an upfront-determination by type-approval authorities as to whether or not a BES or AES is a prohibited defeat device.

This approach is used in the U.S. where 40 C.F.R. §86.1844-01(d) lists the items that “must be submitted to the Agency,” in this case EPA, as part of the CoC application. Among them is included the following:

A list of all auxiliary emission control devices (AECD) installed on any applicable vehicles, including a justification for each AECD, the parameters they sense and control, a detailed justification of each AECD which results in a reduction in effectiveness of the emission control system, and *rationale for why the AECD is not a defeat device as defined under [40 C.F.R.] §§ 86.1809.*¹⁸

For an AECD that otherwise meets the criteria for defeat devices under U.S. regulations, the only rationale for why it not a defeat device is that it falls under one of the four specific exemptions.¹⁹ By requiring manufacturers to disclose their rationale for why an AECD is not a defeat device by identifying the specific exemption they believe applies to their AECD, EPA can better evaluate the AECD and the information provided as well as request additional information if EPA thinks it is necessary to its evaluation. With respect to the weight of evidence required for a defeat device to meet the exemptions, EPA has informed manufacturers of light-duty vehicles they bear the burden of “justify[ing] any AECD that results in a reduction in the effectiveness of the emissions control system.”²⁰ EU legislation could also benefit from guidance to manufacturers and type-approval authorities stating that manufacturers bear the burden of justifying that their defeat device falls under one of the three listed exceptions in Article 5(2) of Regulation (EC) 715/2007 and not the other way around.

Third, additions should be made to the general disclosure requirements for BESs and AESs in Article 5(11) of Commission Regulation (EC) 692/2008. The disclosure requirement in 11(a) should specifically require the manufacturer describe the impact each component of a BES or AES has on emissions. This would ensure type-approval authorities are directed toward the information that is relevant to evaluating BESs or AESs as potential defeat devices. The disclosure requirement in 11(b) should also be expanded to include, among other things, EGR, variable valve timing, spark ignition timing, urea injection and any other aspect of the design of a BES or AES known to potentially impact emissions. As currently formulated, the BES and AES disclosure requirements lack sufficient detail, especially when compared to other required disclosures related to emissions.

For example, Commission Regulation (EC) 692/2008 sets forth the requirements for other emissions related disclosures related to hardware in great detail across 18 pages in Appendix 3. Given the potential of BESs and AESs to undermine the entire emissions control regulatory framework, additional, more specific instructions with respect to BESs and AESs are needed if a type-approval authority is to adequately assess whether or not a BES or AES is a prohibited defeat device.

In the U.S., the initial, general AECD disclosure requirements are found in the regulation itself followed by supplemental disclosure requirements in cases where EPA has designates a vehicle design for “investigat[ion] for possible defeat devices.”²¹

To supplement these disclosures, EPA also develops and publishes open letters to manufacturers that include “Sample AECD Reporting Guidelines” that are “intended to show the level of detail EPA expects from engine manufacturers when they report AECDs.”²² These open letters to manufacturers (or publicly available responses to individual manufacturers) also frequently include extensive, although not exhaustive, lists of the detailed information required in applications for CoC where an AECD is present,²³ with some lists directed at specific categories or types of AECDs.²⁴ Such a model BES, AES and defeat device disclosure form should be developed in the relevant EU legislation and included as an Appendix to Commission Regulation (EC) 692/2008 or otherwise take the form of implementing or delegated acts.

II. Process for Evaluating Potential Defeat Devices

It is not enough that the BES, AES or defeat device is disclosed, described and defended as an exception to the rule prohibiting the use of defeat devices in the EU within the application process for a type-approval certificate. The type-approval authority must be required to evaluate and determine whether or not the BES or AES contains a prohibited defeat device before granting type-approval to the vehicle. This is the approach taken in the U.S. where EPA has informed manufacturers that while the AECD evaluation process is ongoing, if “a device is determined to be a potential defeat device, EPA will withhold issuance of a [CoC] until the issue is resolved.”²⁵

Currently, the relevant EU legislation is unclear as to the process and timing of such an evaluation. In this regard, guidance to type-approval authorities stating the applicable standards to be applied during the evaluation of BESs and AESs, in particular to determining whether or not a defeat device satisfies the criteria for an exception to the defeat device prohibition, should be developed to ensure consistent application of the exceptions.

As an initial matter, a guiding principle for such an evaluation should be that at all times the burden of proof is on the manufacturer, not the type-approval authority, to demonstrate that its BES or AES does not employ a prohibited defeat device. This principle should guide the process from the determination of whether a BES or AES contains a defeat device to whether that defeat device is justified by an exception and if so to whether its employment is limited only to the extent it is necessary.

The first step in evaluating a defeat device is to determine whether the BES or AES is in fact a defeat device, *i.e.*, whether the BES or AES “reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use.”²⁶ One area in the relevant EU legislation that permits a degree of interpretive ambiguity, and which manufacturers could foreseeably rely upon in defense of their use of defeat devices, is the temperature conditions triggering the defeat device. European manufacturers admit to employing defeat devices when temperatures reach below 17°C (Renault) or 10°C (BMW)—temperatures that by any standard should be considered “conditions which may be reasonably expected to be encountered in normal vehicle operation and use” in the EU.²⁷ It is not yet known how regulatory authorities will resolve these cases but any purported ambiguity can be easily resolved in the future.

In the U.S., the definition of defeat device contains a similar requirement that the triggering conditions are must not be “conditions which may reasonably be expected to be encountered in normal vehicle operation and use.”²⁸ In an open letter to manufacturers, EPA has stated that where a condition, e.g. “altitudes above a specific threshold” or temperature, occurs in “significant parts of the country” or on “numerous days” that condition is considered to be included in “normal operation and use” and therefore an AECD triggered under such conditions is a prohibited defeat device (unless a specific exemption applies).²⁹

While the EPA guidance is helpful, the relevant EU legislation can, and should, go further for at least two reasons. First, whatever guidance is provided in the relevant EU legislation, to the extent it requires further interpretation before implementation, it must be interpreted by 28 different approval authorities. This can lead to varying interpretations of what is or is not a defeat device. Second, based on its own research in the wake of the VW emission scandal, the European Commission has recently suggested that, unlike the U.S., the type-approval process in the EU is rife with forum shopping—where manufacturers take their vehicles for type-approval to those jurisdictions where type-approval is most easily obtained.³⁰ Forum shopping of this kind has eroded confidence in the harmonized implementation of the existing EC Type-Approval Directive—a failing that the Proposed EU Type-Approval Regulation can and should remedy.

Specifically, the relevant legislation could set out a specific temperature range which constitutes what “may be reasonably expected to be encountered in normal vehicle operation and use.” This range should be determined by a review of the temperature ranges experienced within the EU and reflect a range of all but the most extreme temperature conditions. Similarly, a specific altitude threshold can be established. A guiding principle for these ranges should be that if it is conceivable that a vehicle driving in the EU could experience the driving conditions, no matter how unusual, then those conditions should be included in the range. These clearly stated temperature and altitude thresholds would then provide manufacturers and type-approval authorities with clear metrics with which to determine whether an AES’s triggering conditions are or are not among those that “may be reasonably expected to be encountered in normal driving operation and use.”

Once a type-approval authority has determined, or a manufacturer has conceded by relying on a specific exception in its application, that a BES or AES is a defeat device, the type approval-authority must then determine whether the AES meets the criteria for the specified exception. In this way, the focus of the inquiry is on whether the defeat device is justified by an exception and not whether the triggering condition of a BES or AES impacting the emission control system “may be reasonably expected to be encountered in normal vehicle operation and use.” Obviously, the more extreme the condition, i.e. the closer the triggering condition is to the outer limits of the range provided, the more likely it will be that the defeat “device is justified in terms of protecting the engine against damage.”

While all three exceptions warrant further attention, of the three exceptions to the defeat device prohibition the permitted use of defeat devices when “the need for the device is justified in terms of protecting the engine against damage or accident *and* for safe operation of the vehicle” is the most likely exception to be subject to abuse because it is the most subjective of the exceptions. Commission Regulation (EC) 692/2008 does not appear to contain any supplemental requirements to implement this exception, meaning the Commission and committee of Member States did not deem any supplemental measures necessary for its implementation.³¹ It hindsight, this is one area that could use greater clarification.

Most critical to the application of this exception is determining when “the need for the device is justified in terms of protecting the engine against damage or accident ...” In the U.S., a similar exemption to the defeat device prohibition is available when the “need for the AECD is justified in terms of protecting the vehicle against damage or accident.”³² The manner in which EPA has interpreted and informed manufacturers of how it will apply the exemption, through Advisory Circulars, open letters to manufacturers and publicly available letters responding to specific manufacturers, is instructive when thinking about how to clarify when the exception in Article 5(2)(a) of Regulation (EC) 715/2007 will be applied. EPA has developed two overarching principles guiding its evaluation.

First, the need for a defeat device is determined by the technical feasibility of alternative technologies and designs that can avoid the need for defeat device. Where alternative technologies and designs exist or are in use, as demonstrated by their use by other manufacturers, the exemption is not available to a manufacturer not using such technologies or designs.

For example, EPA has made it clear that in evaluating whether or not the engine protection exemption is applicable to a defeat device the agency will require a showing that “the excess emissions result from the need to protect the engine against damage and there are no other reasonable means to protect the engine.”³³ Further, EPA has stated that “whether an AECD is justified as necessary depends in part on consideration of currently available technology”³⁴ and that “engine protection is not justified if the need for engine protection is the result of inadequate design of the engine.”³⁵ The inquiry into whether or not the need for the AECD is caused by inadequate design is also not limited to the engine. EPA has stated that, in “determining whether there is a need for the AECD to prevent damage to the engine, EPA will consider the whole engine and emission control system to evaluate any impact on emission performance outside of [testing] procedures” and “considers this approach to defeat device evaluation by considering the entire system [] appropriate due to the many interdependencies between individual components or elements of design ... to determine if the protection is necessary, or is the result of inferior designs ... when viewed in comparison to available technology.”³⁶

In regards to the inadequate design, EPA has required manufacturers employ all “commercially available” technologies to minimize the triggering conditions for the AECD or avoid reliance on the AECD altogether by employing “technically feasible” alternatives, including “state-of-the-art materials ... and design” before it considers a defeat device is “necessary.”³⁷ “In determining what alternative engine and emission control system designs are available, EPA will consider those designs available in other applications including those applications certified by other manufacturers which would be reasonably transferable to this particular manufacturer’s design.”³⁸

Adding a provision in the relevant EU legislation directing type-approval authorities to apply these principles to their evaluation of the exception in Article 5(2)(a) of Regulation (EC) 715/2007 would significantly strengthen the defeat device prohibition and limit the application of this exception to only those defeat devices that are truly necessary to protect the engine against damage.

Second, in the U.S. the exempted use of defeat devices to protect the engine are limited to the minimum extent necessary. EPA has repeatedly stated in open letters to manufacturers that it will apply this principle when evaluating the need for a particular defeat device and requires manufacturers demonstrate that “the strategy is the minimum strategy needed to offset the identified reason for the AECD,”³⁹ or “no more than necessary to protect a well-designed engine” and EPA will grant an exemption “only to the extent such strategies are necessary ... [and] represent the minimum [employment of the defeat device] necessary.”⁴⁰

In addition to these two principles, EPA has also published “objective criteria with which both manufacturers and EPA could use in evaluating potential defeat devices” that cover other issues that might arise in the context of evaluating an AECD as a potential defeat device.⁴¹ These examples from EPA should inform the development of similar guidance to type-approval authorities during the evaluation of BESs, AESs and defeat devices.

Article 10 of the Proposed EU Type-Approval Regulation establishes a “Forum for Exchange of Information and Enforcement” chaired by the Commission and comprised of members appointed by Member States to “coordinate a network of the national authorities responsible for type-approval.”⁴² The forums “advisory tasks shall comprise inter alia the promotion of good practices, the exchange of information on enforcement problems, cooperation, development of working methods and tools, development of an electronic information exchange procedure, evaluation of harmonised enforcement projects, penalties and joint inspections.” Establishing clear guidelines for the evaluation of BESs, AESs and defeat devices discussed in this section would seem to be appropriate to this forum.

This forum should form the basis for additional guidance to type-approval authorities based on the shared experience of what is technologically feasible. This is similar to the approach taken by EPA in the U.S. which issues guidance to manufacturers of when a potential justification exist for a defeat device based on its understanding of technological feasibility. In some cases, this process results in clear

thresholds, where considerations of one factor or triggering condition alone are insufficient to justify the use of a defeat device, which is reinforced by a second threshold within which manufacturers must meet their burden for the exemption.

For example, with respect to heavy-duty diesel engine manufacturers, EPA has stated that for condensation remedies it accepts low ambient temperature alone as a justification for reducing EGR only below -4°C, and it does not permit EGR reduction at all above 10°C.⁴³ As a result, in these cases, manufacturers are only afforded the opportunity to meet their burden for the defeat device prohibition exemption using ambient temperature alone at below -4°C. Between -4°C and 10°C they must meet their burden by demonstrating no technologically feasible alternatives and the employment of the defeat device to the minimum extent necessary, and they are not permitted to reduce EGR above 10°C. This is the only triggering ambient condition ICCT is aware of for which EPA has publicly stated a specific acceptable threshold or range for justifying the use of a defeat device.

By developing similar guidance based on shared experience and understanding of technological feasibility through the forum, type-approval authorities will be armed with a more clear and robust process for evaluating potential defeat devices and exceptions to their use that responds to ongoing technological advancements.

III. Penalty Regime for Non-Compliance with Disclosure Requirements or Defeat Device Prohibition

To date, the penalty regime for non-compliance with the defeat device prohibition has been inconsistent and ineffective. Currently, Member States are required to adopt penalties for infringements by manufactures, including on the use of a defeat device. In particular, Article 13 of Regulation 715/2007/EC states:

Article 13 Penalties

1. Member States shall lay down the provisions on penalties applicable for infringement by manufacturers of the provisions of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for must be effective, proportionate and dissuasive. Member States shall notify those provisions to the Commission by 2 January 2009 and shall notify it without delay of any subsequent amendment affecting them.
2. The types of infringements which are subject to a penalty shall include:
 - (a) making false declarations during the approval procedures or procedures leading to a recall;
 - (b) falsifying test results for type approval or in-service conformity;
 - (c) withholding data or technical specifications which could lead to recall or withdrawal of type approval;
 - (d) use of defeat devices; and
 - (e) refusal to provide access to information.⁴⁴

Although the degree of penalties may vary among Member States—the minimum threshold being only that penalties be effective, proportionate and dissuasive—Regulation (EC) 715/2007 explicitly requires that Member States adopt penalties for the use of a defeat devices.

Article 89 of the Proposed EU Type-Approval Regulation does little to improve the penalty regime in general, and for defeat devices in particular, by largely repeating the mandate to Member States contained in Regulation (EC) 715/2007.⁴⁵ While the new disclosure requirements for BESs and AESs (and further disclosure proposals contained in this note) coupled with the penalty under Article 89(c) for “withholding data or technical specifications which could lead to ... withdrawal of type-approval” should arguably penalize manufacturers for failing to disclose and provide all information necessary for the assessment of potential defeat devices, defeat device-specific penalties would strengthen the regime.

In this regard, the manner in which the U.S. enforces its penalty regime for defeat devices is instructive. The U.S. penalizes both the failure to meet AECDC disclosure obligations in the CoC application process in addition to the use of a defeat device itself with the penalty for failure to meet the disclosure obligations being significantly greater than the penalty for the actual use of a prohibited defeat device.⁴⁶ Taken together, the penalties create a strong deterrent against manufacturers omitting any relevant information concerning vehicles equipped with AECDCs which, if regulators then properly evaluate the disclosures, should prevent the use of a prohibited defeat device.

The relevant EU legislation should build upon this framework, by also stipulating a minimum penalty to be imposed by Member States for such violations. A guiding principle for determining this minimum penalty should be to set the penalty at a level sufficient to ensure the cost of compliance is less than the potential cost of non-compliance. To date, the penalty regimes Member States have put in place in response to Article 13 of Regulation (EC) 715/2007 vary considerably. To ensure that violations of the disclosure and use prohibitions applicable to BESs, AESs and defeat devices are accompanied by “penalties [that are] effective, proportionate and dissuasive” an EU-wide minimum penalty should be adopted.

A harmonized approach to penalties through the establishment of minimum penalties for specific violations is not without precedent and would follow the harmonized approach towards administrative fines taken in the Proposed EU Type-Approval Regulation.⁴⁷ The same logic behind harmonizing administrative fines applies to penalties, namely “to ensure a level playing field for economic operators and national authorities ... regardless of where the vehicle ... was originally type-approved.”⁴⁸

RECOMMENDATIONS

This section puts forward possible means of incorporating this note's recommended changes to the relevant EU legislation via the Proposed EU Type-Approval Regulation. The recommended changes included in this note can be brought into the relevant EU legislation via the Proposed EU Type-Approval Regulation in three ways.

First, a modification can be specifically included in the Proposed EU Type-Approval Regulation itself.

Second, a modification can be outlined in the Proposed EU Type-Approval Regulation while directing that the specific details be developed by the Commission through adopted implementing acts.

Third, a modification can be added directly to a previously adopted implementing act by amending that implementing act within the Proposed EU Type-Approval Regulation. For example, amendments to Regulation (EC) 715/2007 and Commission Regulation (EC) 692/2008 are already included in Articles 91 and 93 Proposed EU Type-Approval Regulation, respectively.

Using this framework, the means of incorporating the recommended changes within the relevant EU legislation are set forth below.

Recommendation 1 – Supplement the definition of “defeat device” to define “emission control system”

Amend Regulation (EC) 715/2007 in Article 91 of the Proposed EU Type-Approval Regulation to include a definition of “emission control system” to be added to the definitions in Article 3 of Regulation (EC) 715/2007. This definition should be as broad as possible. For example, the definition could read:

‘emission control system’ means any device, system, or element of design that controls, increases or reduces the emissions of regulated pollutants, either directly or indirectly, from an engine.

Recommendation 2 – Reframe the disclosure obligations for BESs, AESs and defeat devices to put the onus of providing all information necessary to determine whether a BES or AES is a defeat device on the manufacturer

Include a new article within the Proposed EU Type-Approval Regulation specifically addressing manufacturers' disclosure obligations with respect to BESs, AESs and defeat devices similar to the “obligations of manufacturers concerning their vehicles, systems, components, separate technical units or parts and equipment that are not in conformity or that present serious risk” set forth in Article 12. Among other things, this new article would require the following:

Manufacturers seeking EU type-approval for a vehicle using a BES, AES or defeat device, as those terms are defined by any implementing act or delegated act adopted by the Commission in accordance with Articles 87 or 88, shall provide the type-approval authority with all information that may be reasonably required by the type-approval authority to determine whether the BES or AES is a defeat device and whether an exception to the prohibition on the use of defeat devices under Article 5(2) of Regulation (EC) 715/2007 is applicable.

Recommendation 3 – Require manufacturers state which, if any, exception to the defeat device prohibition applies to their defeat device in their type-approval application

Include a new article within the Proposed EU Type-Approval Regulation specifically addressing manufacturers' disclosure obligations with respect to the applicability of one of the exceptions to the prohibition on the use of defeat devices similar to the “obligations of manufacturers concerning their

vehicles, systems, components, separate technical units or parts and equipment that are not in conformity or that present serious risk” set forth in Article 12. Among other things, this new article would require the following:

Manufacturers seeking EU type-approval for a vehicle using a BES, AES or defeat device, as those terms are defined by any implementing act or delegated act adopted by the Commission in accordance with Articles 87 or 88, shall clearly indicate to the type-approval authority which, if any, exception to the prohibition on the use of defeat devices under Article 5(2) of Regulation (EC) 715/2007 is applicable to each BES, AES or defeat device at the time of submitting its application for EU type-approval. The manufacturer shall also provide the type-approval authority with a detailed explanation and justification for its selection of the exception and all information that may be reasonably required to determine whether the chosen exception is applicable to the BES, AES or defeat device. A manufacturer who fails to designate an exception applicable to a BES, AES or defeat device or fails to provide the requisite supporting information to the type-approval authority at the time of submitting its application for EU type-approval will forfeit its right to avail itself of that exception as to that BES, AES or defeat device.

Recommendation 4 – Establish a non-exhaustive list of specific information required to be disclosed as part of any BES or AES disclosure or defeat device exception

Add a new provision (e) to Article 22(1) of the Proposed EU Type-Approval Regulation as follows:

for vehicles equipped with a BES, AES or defeat device that impacts vehicle emissions, all of the hardware information requested in Article 5(11) of Commission Regulation (EC) 692/2008 and associated calibration information, including a description of the impact each component of a BES or AES has on emissions. Such information shall be supplemented by any additional information reasonably necessary to determine whether the BES or AES is a defeat device and whether an exception to the prohibition on the use of defeat devices under Article 5(2) of Regulation (EC) 715/2007 is applicable, including any information set forth in a new Annex to Commission Regulation 692/2008 by an implementing act or delegated act adopted by the Commission in accordance with Articles 87 or 88 no later than one year after the entry into force of this regulation.

The above referenced “new Annex” is where the Commission should establish a non-exhaustive list of specific disclosure requirements applicable to BESs, AESs and defeat devices.

Add a new provision (3) to Article 93 of the Proposed EU Type-Approval Regulation that adds, inter alia, the following items to the list in Article 11(b) of Regulation (EC) No 692/2008: EGR, variable valve timing, spark ignition timing, urea injection and any other aspect of the design of a BES or AES known to potentially impact emissions.

Recommendation 5 – Establish a timeline and process for the evaluation of potential defeat devices by type-approval authorities

Add a new provision (6) to Article 24 of the Proposed EU Type-Approval Regulation as follows:

The approval authority shall not grant EU type-approval until it has completed its assessment and has determined that a type of vehicle is not equipped with a prohibited defeat device in accordance with the guidelines and procedures set forth in Annex XXI to Commission Regulation 692/2008. The Annex shall be updated, as appropriate, by concepts endorsed by the Forum for Exchange of Information on Enforcement

established under Article 10 of this regulation by an implementing act or delegated act adopted by the Commission in accordance with Articles 87 or 88.

Add a new provision (4) to Article 93 of the Proposed EU Type-Approval Regulation as follows:

Commission Regulation (EC) 692/2008 shall be amended to include Appendix [X] to this regulation as Annex XXI.

Within Appendix [X] should be included a process for the evaluation of potential defeat devices. This process should specifically include, among other things, guidelines for applying the exceptions to the defeat device prohibition in Article 5(2) of Regulation (EC) 715/2007.

Recommendation 6 – Establish specific thresholds and ranges for temperature, altitude and other BES or AES triggering conditions to be applied during the evaluation of potential defeat devices

Appendix [X], discussed above, should also include a range of temperatures, altitudes and other BES or AES triggering conditions within which the triggering condition of a BES or AES “may reasonably be expected to be encountered in normal vehicle operation and use.”

Recommendation 7 – Establish guiding principles to be applied by approval authorities when assessing whether a defeat device is “justified in terms of protecting the engine against damage or accident and for safe operation of the vehicle”

For example, Appendix [X] could include the following:

When evaluating whether a defeat device qualifies for the exception listed in Article 5(2)(a) of Regulation (EC) 715/2007 where “the need for the device is justified in terms of protecting the engine against damage or accident and for the safe operation of the vehicle,” type-approval authorities shall only apply the exception where it has determined that no other commercially available and technically feasible alternative technology exist that can avoid the need for the device and the strategy used is the minimum strategy needed to offset the identified reason for the device. A determination against the application of the exception is warranted if, considering the engine and emission control system as a whole, another currently available technology, material or design that is reasonably transferable to the particular manufacturer’s design is available to offset the need for the device. At each stage throughout the evaluation process, the burden of proof is on the manufacturer to demonstrate that the defeat device meets each of these standards before qualifying for a listed exception.

Recommendation 9 – Establish EU-wide minimum penalties for non-compliance with the BES, AES and defeat device disclosure and prohibition obligations

Add a new provision (6) to Article 89 of the Proposed EU Type-Approval Regulation as follows:

The Commission shall adopt [implementing acts][delegated acts] in accordance with Article [87][88] no later than one year after the entry into force of this regulation establishing minimum penalties for violations of the obligations of disclosure in Article 5(11) of Commission Regulation (EC) 692/2008 and any other disclosure obligations it deems necessary to determine whether a BES or AES is a defeat device and whether an exception to the prohibition on the use of defeat devices under Article 5(2) of Regulation (EC) 715/2007 is applicable as set forth in a new Annex to Commission Regulation 692/2008. The penalty for such violations shall not be less than the penalty for violations of Article 11(1) of this Regulation.

Add a new provision (7) to Article 89 of the Proposed EU Type-Approval Regulation as follows:

The Commission shall adopt [implementing acts][delegated acts] in accordance with Article [87][88] no later than one year after the entry into force of this regulation establishing minimum penalties for violations of the prohibition on the use of defeat devices under Article 5(2) of Regulation (EC) 715/2007.

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- ¹ Directive 2007/46/EC of the European Parliament and of the Council of 5 September 2007 establishing a framework for the approval of motor vehicles and their trailers, and of systems, components and separate technical units intended for such vehicles (“EC Type-Approval Directive”), available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32007L0046&from=EN>.
- ² Proposal for a Regulation of the European Parliament and of the Council on the Approval and Market Surveillance of Motor Vehicles and their Trailers, and of Systems, Components and Separate Technical Units Intended for Such Vehicles (27 January 2016), COM(2016) 31 final (“Proposed EU Type-Approval Regulation”), available at: <https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-31-EN-F1-1.PDF>.
- ³ Regulation (EC) No 715/2007 of the European Parliament and of the Council of 20 June 2007 on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information (“Regulation (EC) 715/2007”), available at: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:171:0001:0016:EN:PDF>.
- ⁴ Commission Regulation (EC) 692/2008 of 18 July 2008 implementing and amending Regulation (EC) 715/2007 of the European Parliament and of the Council on type-approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information (“Commission Regulation (EC) 692/2008”), available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R0692&from=en>.
- ⁵ See Commission Regulation (EU) 2016/646 of 20 April 2016 amending Regulation (EC) 715/2007 as regards emissions from light passenger and commercial vehicles (Euro 6) (“Commission Regulation (EU) 2016/646”), Article 1(1), available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0646&from=EN>.
- ⁶ Commission Regulation (EU) 2016/646, Article 1(1).
- ⁷ Commission Regulation (EU) 2016/646, Article 1(1).
- ⁸ In the U.S., the legal framework for the application for a certificate of conformity (COC) of light duty vehicles is set forth in federal regulations 40 C.F.R. Part 86, *Control of Emissions from New and In-Use Highway Vehicles and Engines*, available at: http://www.ecfr.gov/cgi-bin/text-idx?node=pt40.19.86%20&rgn=div5#se40.19.86_11809_601. In the U.S., while not all AECs are defeat devices, all defeat devices are by definition AECs. A “defeat device” is defined as follows: “Defeat device means an auxiliary emission control device (AEC) that reduces the effectiveness of the emission control system under conditions which may reasonably be expected to be encountered in normal vehicle operation and use ...” 40 C.F.R. §86.1803-01. An AEC is defined as follows: “Auxiliary Emission Control Device (AEC) means any element of design which senses temperature, vehicle speed, engine RPM, transmission gear, manifold vacuum, or any other parameter for the purpose of activating, modulating, delaying, or deactivating the operation of any part of the emission control system.” 40 C.F.R. §86.1803-01.
- ⁹ Regulation (EC) 715/2007, Article 3(10).
- ¹⁰ See U.S. EPA, OMSAPC Advisory Circular A/C No. 20-B (27 June 1974) at §§ G-H, available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14337&flag=1.
- ¹¹ UNECE Regulation 96, Section 2.1.24, available at: <http://www.unece.org/fileadmin/DAM/trans/main/wp29/wp29regs/updates/R096r3e.pdf>. These definitions are broad, and understandably so, since as the plain meaning of emission control system is any system that controls emissions.
- ¹² See 40 C.F.R. §86.1844-01(d).
- ¹³ An application for type-approval is submitted with a Model Information Document. The Model Information Document, located in Appendix 3 of Annex I of Commission Regulation (EC) 692/2008, lists certain information that must be supplied during the application process. Under the heading “measures taken against air pollution,” descriptions and information for a series of items are listed, including a catch-all category of “other systems (description and operation)” —meaning any information not specifically listed in Appendix 3 of Annex I but affecting air pollution must be included in the Model Information Document. See Commission Regulation (EC) 692/2008, Article 5(1), and Annex I, Appendix 3, Section 3.2.12.2.8.
- ¹⁴ See Commission Regulation (EC) 692/2008, Article 5(1), and Annex I, Appendix 3, Section 3.2.14.
- ¹⁵ With respect to EGR specifically, however, disclosure of the impact of a defeat device on emissions is required in certain circumstances. Under Article 3(9) of Commission Regulation (EC) 692/2008, diesel vehicles are not required to undertake Type 6 testing for NOx emissions at low temperatures. See Commission Regulation (EC) 692/2008, Article 3(9). Despite this exclusion, as a requirement of type-approval, manufacturers must “provide the approval authority with information on the operating strategy of the exhaust gas recirculation system (EGR), including its functioning at low temperatures.” This information shall “include a description of any effects on emissions.” See Commission Regulation (EC) 692/2008, Article 3(9). Thus, at least for diesel vehicles, disclosure of the effects of a defeat device on emissions and the functioning of EGR at low temperatures is required.
- ¹⁶ Clean Air Act (CAA) §208(a), 42 U.S.C. §7542(a).

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- ¹⁷ See e.g. *United States of America v. Volkswagen AG, et al.*, Complaint, 2:16-cv-10006-LJM-MJH (Filed 1 Jan. 2016 E.D. Mich.) at ¶¶54-66, available at: <https://www.justice.gov/opa/file/809826/download>.
- ¹⁸ 40 C.F.R. §86.1844-01(d)(11).
- ¹⁹ Defeat devices are prohibited under 40 C.F.R. §86.1809-01, 09 and 10(a): “No new light-duty vehicle, light duty truck, or complete heavy-duty vehicle shall be equipped with a defeat device.” The definition of “defeat device” in 40 C.F.R. §86.1803 sets forth four situations in which an AECD which otherwise meets the definition of defeat device will not be treated as such for purposes of the prohibition. These categories of exemptions largely mirror the three categories of exceptions to the defeat device prohibition in Article 5(2) of Commission Regulation (EC) 715/2007 with the addition of a fourth category related to the use of defeat devices in emergency vehicles.
- ²⁰ See e.g. Letter from EPA to Manufacturers, VPCD-98-13 (HD Engine) (15. Oct. 1998) (citing to “Dear Manufacturer Letter dated May 27, 1998) at p. 3, available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14148&flag=1.
- ²¹ 40 C.F.R. §86.1844-01(d) (11); see also 40 C.F.R §86.1809-01(d) (listing additional information required in cases where the “vehicle designs [have been] designated by the Administrator to be investigated for possible defeat devices ...”).
- ²² See e.g. Letter from EPA to Manufacturers, VPCD-98-13 (HD Engine) (15. Oct. 1998) (citing to “Dear Manufacturer Letter dated May 27, 1998) at p. 11, Attachment I, available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14148&flag=1.
- ²³ See e.g. Letter from EPA to D. Grandstaff General Counsel of Caterpillar, Inc. (2001) at p. 3-4, available at: <http://www.4cleanair.org/081701letter.pdf>.
- ²⁴ See e.g. Letter from EPA to Manufacturers, VPCD-98-13 (HD Engine) (15. Oct. 1998) (citing to “Dear Manufacturer Letter dated May 27, 1998) at p. 4-6, available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14148&flag=1.
- ²⁵ See e.g. U.S. EPA, OMSAPC Advisory Circular A/C No. 24-2 (Dec. 6, 1978) at p. 1, available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14342&flag=1.
- ²⁶ Regulation (EC) 715/2007, Article 3(10).
- ²⁷ See ICCT, *Defeat devices under the U.S. and EU passenger vehicle emissions testing regulations* (March 2016), pp. 8-10, available at: http://www.theicct.org/sites/default/files/publications/ICCT_defeat-devices-reg-briefing_20160322.pdf (detailing the temperature triggering conditions for defeat devices of European automobile manufacturers).
- ²⁸ 40 C.F.R. §86.1803-01.
- ²⁹ See e.g. Letter from EPA to Manufacturers, VPCD-98-13 (HD Engine) (15. Oct. 1998) (citing to “Dear Manufacturer Letter dated May 27, 1998) at p. 9-10, available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14148&flag=1.
- ³⁰ See e.g. Commission Staff Working Document, *Additional analysis to complement the impact assessment supporting the Proposal for a Regulation of the European Parliament and of the Council on the approval and market surveillance of motor vehicles and their trailer*, SWD(2016) 9 final (27 Jan. 2016), pp. 13-20, available at: http://europeanmemoranda.cabinetoffice.gov.uk/files/2016/02/5712-16_ADD_3.pdf.
- ³¹ See Commission Regulation (EC) 715/2007, Articles 5(3) and 15(3); see also Decision 1999/468/EC.
- ³² See 40 C.F.R. §86.1803.
- ³³ See e.g. Letter from EPA to D. Grandstaff General Counsel of Caterpillar, Inc. (2001) at p. 4, available at: <http://www.4cleanair.org/081701letter.pdf>.
- ³⁴ See e.g. Letter from EPA to Manufacturers, VPCD-98-13 (HD Engine) (15. Oct. 1998) (citing to “Dear Manufacturer Letter dated May 27, 1998) at p. 9, available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14148&flag=1.
- ³⁵ See e.g. Letter from EPA to D. Grandstaff General Counsel of Caterpillar, Inc. (2001) at p. 2, available at: <http://www.4cleanair.org/081701letter.pdf>.
- ³⁶ See e.g. Letter from EPA to Manufacturers, CCD-01-02 (Advisory Circular 24-3) (19. Jan. 2001) (in the context of heavy-duty diesel engines), available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14343&flag=1.
- ³⁷ See e.g. Letter from EPA to D. Grandstaff General Counsel of Caterpillar, Inc. (2001) at pp. 4-5, available at: <http://www.4cleanair.org/081701letter.pdf>.
- ³⁸ See e.g. Letter from EPA to Manufacturers, CCD-01-02 (Advisory Circular 24-3) (19. Jan. 2001) (in the context of heavy-duty diesel engines) (in the context of heavy-duty diesel engines), available at: available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14343&flag=1.
- ³⁹ See e.g. Letter from EPA to Manufacturers, VPCD-98-13 (HD Engine) (15. Oct. 1998) (citing to “Dear Manufacturer Letter dated May 27, 1998) at p. 6, available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14148&flag=1.
- ⁴⁰ See e.g. Letter from EPA to Manufacturers, VPCD-98-13 (HD Engine) (15. Oct. 1998) (citing to “Dear Manufacturer Letter dated May 27, 1998) at p. 9-10, available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14148&flag=1.

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- ⁴¹ See e.g. Letter from EPA to Manufacturers, CCD-01-02 (Advisory Circular 24-3) (19. Jan. 2001) (in the context of heavy-duty diesel engines), available at: https://iaspub.epa.gov/otaqpub/display_file.jsp?docid=14343&flag=1.
- ⁴² Proposed EU Type-Approval Regulation, Art. 10.
- ⁴³ See ICCT, *The emissions test defeat device problem in Europe is not about VW* (5 May 2016), available at: <http://www.theicct.org/blogs/staff/emissions-test-defeat-device-problem-europe-not-about-vw>.
- ⁴⁴ Regulation (EC) 715/2007, Art. 13; see also EC Type-Approval Directive, Art. 46 (providing the same mandate).
- ⁴⁵ Proposed EU Type-Approval Regulation, Art. 89.
- ⁴⁶ In the U.S., failure to provide information concerning an AECD that affects vehicle emissions would qualify as withholding information reasonably required to determine compliance with vehicle emission standards. The penalty for doing so is up to US\$37,500 per day of such violations. See CAA §203(a)(2), 42 U.S.C. §7522(a)(2). Failure to disclose the existence of an AECD can result in the CoC being deemed *void ab initio*. See 40 C.F.R. §1850-01(d). Under 40 C.F.R. §86.148-10(c)(6), vehicles are only covered by a CoC if the vehicles are described in the manufacturer's application "in all material respects." As interpreted by EPA, "a motor vehicle containing an AECD that can reasonably be expected to affect emission controls and is not disclosed or justified in the COC application does not conform in all material respects with the COC application, and is therefore not covered by the [COC]." *United States of America v. Volkswagen AG, et al.*, Complaint, 2:16-cv-10006-LJM-MJH (Filed 1 Jan. 2016 E.D. Mich.) at ¶48. CAA §203(a)(1), 42 U.S.C. §7522(a)(1), prohibits manufacturers from offering for sale, selling or otherwise introducing into commerce in the United States any new motor vehicle not covered by a COC. The penalty for doing so is up to US\$37,500 per vehicle for each violation. See CAA §204(a) and 205(a), 42 U.S.C. §§7523(a) and 7524(a). The CAA makes it a violation for manufacturers to introduce vehicles equipped with defeat devices into the stream of commerce in the United States. See Clean Air Act §203(a)(3)(B), 42 U.S.C. §7522(a)(3)(B); see also 40 C.F.R. §86.1854-12(a)(3)(ii). If the undisclosed AECD is determined to be a defeat device, the penalty is up to US\$3,750 per part or component that constitutes a defeat device.
- ⁴⁷ See Proposed EU Type-Approval Regulation, Art. 90.
- ⁴⁸ See Proposed EU Type-Approval Regulation, Preamble at ¶42.